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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,150	10/30/2003	Gary Gibson	100111365-1	1482

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FORT COLLINS, CO 80527-2400

EXAMINER
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ALUNKAL, THOMAS D

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/699,150

Applicant(s)

GIBSON, GARY

Examiner

Thomas D. Alunkal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-29 and 35-40 is/are allowed.
- 6) ☒ Claim(s) 1 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 30-34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 7-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2 and 8-13 of U.S. Patent No. 6,980,507. Although the conflicting claims are not identical, they are not patentably distinct from each other. Claim 1 of the present application states, "wherein the first phase of the phase-change layer enables transmission of materially more light through the phase-change layer from the luminescent layer to the detector than the second phase of the phase-change layer" while claim 2 of U.S. Patent No. 6,980,507 states, "wherein the first phase

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transmits the light through the phase-change layer and wherein the second phase absorbs the light". All of the limitations in claim 1 of the present application are met by claim 2 of U.S. Patent No. 6,980,507, therefore, claim 1 of the present application is not patentably distinct from claim 2 of U.S. Patent No. 6,980,507. *In re Goodman*, 11F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). In addition, dependent claims 7-12 of the present application and 8-13 of U.S. Patent No. 6,980,507 are identical.

### ***Response to Arguments***

Applicant's arguments, filed 10/31/06, with respect to claims 1-40 have been fully considered and are persuasive. The 35 USC § 112 and 35 USC § 102 rejections of pending claims 1-9 and 11-40 have been withdrawn. However, the double patenting rejections of claims 1 and 7-12 are maintained for the reasons stated in the rejection above.

### ***Allowable Subject Matter***

Claims 2-6 and 30-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13-29 and 35-40 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding independent claim 13, none of the references of record alone or in combination suggest or fairly teach a data storage device for use with a

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beam transmitter configured to transmit a beam, comprising: a luminescent layer comprising a luminescent material capable of emitting light while being bombarded by the beam from the beam transmitter; a phase-change layer located between the luminescent layer and the beam transmitter, said phase-change layer able to transform from a first phase to a second phase; and a detector located proximate the luminescent layer for detecting the light emitted from the luminescent layer; **wherein light emitted from the luminescent layer and received by the detector materially differs when the phase-change layer transforms opacity from the first phase to the second phase.**

Regarding independent claim 19, none of the references of record alone or in combination suggest or fairly teach a device for use with a beam transmitter configured to transmit a beam, comprising: a luminescent layer comprising a luminescent material capable of emitting light while being bombarded by the beam from the beam transmitter; a detector located near the luminescent layer and the beam transmitter for detecting the light emitted from the luminescent layer; and **a phase-change layer located adjacent the luminescent layer such that the luminescent layer is positioned between the detector and the phase-change layer, said phase-change layer able to transform from a first phase to a second phase; wherein light emitted from the luminescent layer and received by the detector materially differs when the phase-change layer transforms from the first phase to the second phase.**

Regarding independent claim 40, none of the references of record alone or in combination suggest or fairly teach a method for storing data on a data

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storage device comprising a phase change layer and a luminescent layer, the method comprising: bombarding the luminescent layer with a beam, causing the luminescent layer to emit light; detecting the light emitted from the luminescent layer using a detector; and writing data by transforming the phase change layer from a first phase to a second phase; **wherein light emitted from the luminescent layer and detected by the detector materially differs when the phase-change layer transforms from the first phase to the second phase.**

Claims 14-18,20-29, and 35-39 are allowed with their respective parents claims.

### ***Conclusions***

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure: Terao et al. (US PgPub 2003/0218941) disclose a data storage device, comprising: a phase change layer (Paragraph 22), a luminescent layer (Paragraph 129) and a detector (Figure 9, Element 8-3). Gemma et al. (US 6,125,095) disclose a data storage device, comprising: a laser source (Figure 7, Element 32), a luminescent layer (Figure 2), a detector (Figure 7, Element 35) and a phase change layer (Column 9, lines 62-66). Comberg et al. (US 4,982,362) discloses a data storage device, comprising: an electron beam (Figure 1, Element 1), a luminescent layer (Column 3, lines 44-54) and a detector (Figure 1, Element 9).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571)272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thomas Alunkal



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